

REMARKS/ARGUMENTS

Claims 1-4 and 7-23 were pending at the time of the mailing of the outstanding Office Action. Claims 1-3, 8, 10, 11 and 16-23 are withdrawn from consideration. By this amendment, no claims have been added or cancelled. Claims 4, 14 and 15 have been amended.

In the Office Action of 5 March 2008, claims 4, 7, 9, and 12-15 were provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-6 and 21-24 of co-pending US App. No. 10/706,717, as being unpatentable over claims 1-3, 5, 7-9 and 16-19 of co-pending US App. No. 10/596,797, as being unpatentable over claims 1-9 and 11 of co-pending US App. No. 10/908,729, as being unpatentable over claims 1-4 of co-pending US App. No. 11/221,322, and as being unpatentable over claims 1-4 of co-pending US App. No. 11/221,344. Claims 4, 7, 9, and 15 stand rejected under 35 U.S.C. § 102(b) as being anticipated by US Pat. No. 3,687,135 to Stroganov et al. (hereinafter "Stroganov"). Under 35 U.S.C. § 103(a), claims 12 and 13 were rejected as obvious over Stroganov.

The Applicants request reconsideration of the species election requirement under PCT Rule 13.1. Under PCT Rule 13.4, the Applicants are permitted to present a reasonable number of dependent claims, "claiming specific forms of the invention claimed in an independent claim, even where the features of any dependent claim could be considered as constituting in themselves an invention." Additionally, the Applicants wish to point out, as provided in the MPEP, "Unity of invention has to be considered in the first place only in relation to the independent claims in an international application and not the dependent claims." (MPEP § 1850). Furthermore, the Applicants maintain that there is a single general inventive concept common to the identified species, namely an inhibiting of proliferation of human smooth muscle cells of the vascular vessel in which the formulation is placed. Therefore, the Applicants request reconsideration of the species election requirement and rejoinder of claims 8, 10, 11, and 16-18, which all depend from claim 4.

The Applicants request that consideration of the provisional rejections of claims 4, 7, 9, and 12-15 on the ground of nonstatutory obviousness-type double patenting be deferred until the patentability of any of the cited co-pending applications has been determined.

To anticipate a claim, a reference must teach all elements of the claim (MPEP § 2131). The Examiner maintains that Stroganov provides a magnesium-based alloy for use in bone

surgery with a composition that includes zirconium, neodymium and yttrium. The Examiner further indicates, “The limitations in the claim of ‘inhibiting the proliferation of smooth human muscle cells wherein the formulation is adapted for intravascular liberation after implantation in a vascular vessel’ are not given patentable weight, since the composition of Stroganov et al. has pharmaceutical use in bone surgery, and thus would be capable of the intended use of the claimed invention.” However, this ignores the clear limitations of claim 4, which has been amended to additionally reinforce the wording of the claim to indicate that the implantation in a vascular vessel, the adaptation of the composition for inhibition of smooth muscle cell proliferation and intravascular liberation of the composition is not optional.

Stroganov provides a formulation that is intended and adapted for use in bone surgery, not for placement in vascular vessels. Moreover, Stroganov does not provide that the composition is adapted to inhibit the proliferation of human smooth muscle cells. To the contrary, Stroganov is silent regarding the effect of such a composition on smooth muscle cells. Stroganov does however, indicate that their composition does have an effect on the proliferation of tissue, but it is one that *stimulates* the proliferation of tissue (specifically, bone tissue – see Stroganov, column 2, lines 10-12). Stimulation of tissue growth would not only be undesirable, as likely triggering restenosis (see paragraph 0005 of specification), but it would be entirely contrary to the limitations of claim 4. Stroganov does not provide any teaching or suggestion that an alloy of this composition is suitable for implantation in a vascular vessel under any conditions. Therefore, Stroganov can not be said to teach a pharmaceutical composition adapted to be implanted in a vascular vessel, or adapted to inhibit the proliferation of human smooth muscle cells as recited in claim 4.

Contrary to the Examiner’s assertion regarding claim 15 that the composition of Stroganov would be capable of performing the intended use of claimed invention, Stroganov provides no teaching or suggestion of the delivery of yttrium to smooth muscle cells at all, much less at the levels recited by claim 15. As discussed above, Stroganov only discloses the use of their composition for joining bone fragments and to stimulate bone growth, *not* to inhibit smooth muscle proliferation. Additionally, claim 15 does not treat as optional the delivery of yttrium to smooth muscle cells to be treated as alleged by the Examiner. Furthermore the recitation of claim 15 reinforces that the limitations of claim 4 that the formulation is adapted for implantation in a vascular vessel and to inhibit proliferation of smooth muscle cells and shows these

limitations are not optional. Because Stroganov does not teach or suggest the delivery of yttrium to smooth muscle cells at all, it also does not teach or suggest the delivery of the specified amounts of yttrium to smooth muscle cells as recited in claim 15.

Therefore, claims 4, 7, 9, and 15 patentably distinguish over US Pat. No. 3,687,135 to Stroganov et al. Withdrawal of the rejections under 35 U.S.C. § 102(b) is respectfully requested.

A claimed invention is unpatentable under 35 U.S.C. §103 if the differences between it and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art. 35 U.S.C. § 103 (1994); *Graham v. John Deere Co.*, 383 U.S. 1, 14 (1966); *KSR International Co. v. Teleflex Inc.*, 550 U.S. ___, No. 04-1350, *slip op.* at 2 (2007). The ultimate determination of whether an invention is or is not obvious is a legal conclusion based on underlying factual inquiries, including (1) the scope and content of the prior art; (2) the level of ordinary skill in the art; (3) the differences between the claimed invention and the prior art; and (4) objective evidence of nonobviousness. *Graham*, 383 U.S. at 17-18; *KSR Int'l* at 2.

To reach a proper determination under §103, the Examiner must step backward in time and into the shoes of the hypothetical person of ordinary skill in the art when the invention was unknown and just before it was made. MPEP §2142. The tendency to resort to “hindsight” based upon applicant’s disclosure is often difficult to avoid due to the very nature of the examination process. However, impermissible hindsight must be avoided and the legal conclusion must be reached on the basis of the facts gleaned from the prior art. MPEP §2142.

The Examiner alleges that a person of ordinary skill in the art would have found it obvious to arrive at the present formulations as recited in claims 12-14 based on Stroganov’s disclosure of the use of a composition containing rare earth metals in the range of 0.4%-4.0% by weight. The Applicants maintain that the Examiner has not properly considered the teachings of Stroganov as a whole and has therefore found the desirability of its modification with the aid of hindsight provided by the claimed invention.

As discussed above, Stroganov provides no teaching or suggestion of the implantation of the composition in a vascular vessel as claimed. Additionally, Stroganov only provides for the use of a composition for the purpose of stimulating bone tissue growth, not inhibiting smooth muscle cell growth as in the claimed invention. As provided in the disclosure of Stroganov, the stimulation of bone tissue growth is preferred in the joining of bone fragments (column 2, lines

10-12). In contrast, in the present invention, which is directed to the treatment of constricted or closed blood vessels, inhibition of the growth of cells at the place of implantation is preferred (paragraph 0017). Therefore, Stroganov teaches away from the present invention by providing a composition that stimulates cell growth instead of inhibiting it.

Additionally, the Examiner further maintains that it would have been prima facie obvious to combine to compositions (presumably one containing yttrium and the other containing neodymium), “each of which is taught by the prior art, to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.” As provided above, the purpose of Stroganov is not “the very same purpose” as that of the present invention, but rather is the complete opposite of the purpose of the claimed invention. That is, Stroganov’s composition stimulates cell growth, while the claimed invention inhibits it.

Furthermore, even if one were to combine the compositions of Stroganov (again, presumably one containing yttrium and the other containing neodymium), Stroganov clearly provides an upper limit of total rare earth metals of 4.0 % by weight (column 2, line 21) while the claimed invention provides a total rare earth weight percentage (yttrium plus non-yttrium rare earths such as neodymium) of 5.2 % (claim 12), 5.5 % (claim 13), or 6.3% (claim 14). All of Stroganov’s compositions contain either yttrium or neodymium, not both. Therefore, in addition to providing no teaching or suggestion of a composition to inhibit cell growth, Stroganov also provides no teaching or suggestion of a composition as recited in claims 12-14.

Finally, the lapse of 30 years between the issue date of Stroganov (29 August 1972) and the priority date of the present invention (13 November 2002), additionally demonstrates that the modification of Stroganov as suggested by the Examiner was not obvious to one of ordinary skill in the art at the time of the invention, despite well-publicized efforts to improve therapy for heart disease during this time period. For these reasons, claims 12-14 patentably distinguish over Stroganov. Withdrawal of the rejections under 35 U.S.C. § 103(a) is respectfully requested.

Claim 14 has been amended to recite the composition of the WE 43 alloy as provided in the specification paragraph 0048 as suggested by the Examiner. Additionally, claim 15 was also amended to eliminate a portion of the claim which may have been considered to render claim 15 indefinite.

The outstanding Office Action was electronically transmitted on 5 March 2008. The Examiner set a shortened statutory period for reply of 3 months from the mailing date.

Therefore, no extension of time or accompanying fee is believed to be due in making this response. Nevertheless, the Applicants hereby make a conditional petition for an extension of time for response in the event that such a petition is required. No claims have been cancelled or added. Therefore, no additional claim fees are believed to be due. However, in the event that a fee for the filing of his response is insufficient, the Commissioner is authorized to charge any fee deficiency or to credit any overpayment to Deposit Account 15-0450.

Respectfully submitted,

/John J. Cunniff/

John J. Cunniff
Reg. No 42,451

Hahn Loeser + Parks LLP
One GOJO Plaza
Suite 300
Akron, OH 44311

Attorney for Applicants